IN THE CLAIMS:

This listing of claims replaces all prior versions of the claims in the application:

1. (Currently Amended) A method for ~~obtaining and~~ expanding postembryonic hematopoietic stem cells from umbilical cord blood while avoiding ~~wanted~~ unwanted differentiation, ~~wherein~~ said method comprising providing initial stem and progenitor cells from umbilical cord blood ~~are~~ and cultivating ~~cultivated~~ ex vivo said initial cells in a stroma-free medium and in the presence of a regio-modified glycan and/or glycosaminoglycan, which is modified as follows:

the side group of the C2 atom of one or more monomer units of the glycan and/or glycosaminoglycan has an acetyl or acyl group with 2 to 12 carbon atoms; the side group of the C6 atom of one or more monomer units of the glycan and/or glycosaminoglycan is a 6-O-sulfate group, and

~~and obtaining~~ cultivating generated stem cells and progenitor cells that can differentiate specifically into myeloid and lymphatic cells.

2. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the region-modified glycan or glycosaminoglycan is selected from α1-4 glycans, ß1-3 glycans, ß1-4 glycans, ß1-3, ß1-4 glycosaminoglycans, ß1-4, α1-4 glycosaminoglycans, ß1-4, ß1-3, (α1-3) glycosaminoglycans and ß1-4, ß1-3, (α1-4) glycosaminoglycans.

3. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the region-modified glycosaminoglycan is a heparin derivative that was substantially N-desulfated and N-reacetylated or N-reacylated on the C2 atom, that has C6-O-sulfate groups, and that contains 5 percent or less C3-O-sulfate.

4. (Currently Amended) The method ~~Method~~ according to claim 3, wherein the regio-modified glycosaminoglycan is a heparin containing at least 60% C2-O-sulfate and at least 80%, C6-O-sulfate.

5. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the region-modified glycan or glycosaminoglycan is present with a concentration of 15 to 50 mg/L in the medium.

6. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the properties of the stem cells are monitored in an ML-IC assay.

7. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the properties of the generated progenitor cells are monitored in an LY-IC assay (lymphatic) or in a LTC-IC assay (myeloid-erythroid) or in both assays.

8. (Currently Amended) The method ~~Method~~ according to claim 1, wherein the stem and progenitor cells propagated under conditions conforming to GMP (good manufacturing practice) are differentiated into functional lymphocytes (NK cells and NKT cells).

9. (Currently Amended) A therapeutic ~~Therapeutic~~ composition, ~~containing~~ comprising stem and progenitor cells obtained according to claim 1.

10. (Currently Amended) The therapeutic ~~Therapeutic~~ composition according to claim 9 ~~and~~ further comprising a pharmaceutically acceptable carrier or excipient.

11. (Currently Amended) A culture ~~Culture~~ medium for expanding postembryonic stem and progenitor cells, ~~characterized in that it contains~~ said culture comprising a growth medium, nutrients, and a region-modified glycan and/or glycosaminoglycan, wherein the side group of the C2 atom of one or more monomer units of the glycan and/or glycosaminoglycan is acylated or acetylated, and wherein the side group of the C6 atom of one or more monomer units of the glycan and/or glycosaminoglycan is a 6-O-sulfate group.

12. (Currently Amended) ~~Use of regio-modified glycans and glycosaminoglycans~~ A method for expanding postembryonic stem and progenitor cells, said method comprising administering to said cells in a growth medium a region-modified glycan and/or glycosaminoglycan, wherein the side group of the C2 atom of one or more monomer units of the glycan and/or glycosaminoglycan is acylated or acetylated, and wherein the side group of the C6 atom of one or more monomer units of the glycan and/or glycosaminoglycan has a 6-O-sulfate group.

13. (Currently Amended) A method ~~Method according to claim 1~~ for the production of a therapeutic agent for the direct administration of expanded stem and progenitor cells, said method comprising the method of claim 1.

14. (Currently Amended) The method ~~Method~~ according to claim 13 for producing a therapeutic agent for the treatment of tumorous diseases, viral diseases, hepatitis C, HIV, malignant system diseases, acute leukaemias, chronic leukaemias, myeloproliferative syndrome (MPS), myelodysplastic syndrome (MDS), high-grade malignant non-Hodgkin lymphomas (NHL), low-grade malignant NHLs, Hodgkin's disease, multiple myeloma, Waldenström's syndrome, histiocytosis X, amyloidosis and solid tumors such as anal carcinoma, astrocystoma, basalimoa, pancreatic cancer, bladder cancer, bronchial carcinoma, breast cancer, corpus carcinoma, CUP syndrome, intestinal cancer, small intestines tumors, ovarian cancer, endometrial carcinoma, gall-bladder cancer, uterine cancer, cervico-uterine cancer, glioblastoma, brain tumors, brain lymphomas, metastases of the brain, testicular cancer, hypophyseal tumor, carcinoids, laryngeal cancer, bone cancer, head and neck tumors, colon carcinoma, craniopharyngeomas, liver cancer, metastases of the liver, eyelid tumor, lung cancer, stomach cancer, medulloblastomas, melanoma, meningeomas, mycosis fungoides, neurinoma, kidney cancer, non-Hodgkin lymphomas, oligodendroglioma, oesophageal, carcinoma, ovarial carcinoma, pancreatic carcinoma, penis cancer, prostate cancer, throat cancer, rectal carcinoma, retinoblastoma, vaginal cancer, thyroid carcinoma, oesophageal cancer, spinalioma, thymoma, urethral cancer, vulvar cancer, soft-tissue tumors, cervical carcinoma.